

CLAIMS

1. A method for locking a first member to a second member, said first member and said second member being moveable longitudinally into coupling engagement, comprising:
- (a) providing a lock comprised of a lock body and a retainer;
 - (b) providing said first member and said second member with respective engaging surfaces to resist transverse movement of said first member and said second member with respect to one another when said first member and said second member are in coupling engagement;
 - (c) providing said first member and said second member each with a lock engaging wall, and defining in said second member an opening between said lock engaging wall of said first member and said lock engaging wall of said second member when said first member and said second member are in coupling engagement for receiving said lock to resist longitudinal movement of said first member with respect to said second member;
 - (d) defining a channel in said lock body in communication with a side of said lock body;
 - (e) inserting said lock body into said opening; and
 - (f) inserting said retainer into said channel of said lock body so that a portion of said retainer extends beyond said side of said lock body and interferes with removal of said lock out of said opening.

2. The method of claim 1 wherein said retainer is deformed to insert said retainer into said channel.

5 3. The method of claim 1 wherein said lock body is inserted into said opening before said retainer is inserted into said lock body.

10 4. The method of claim 1 wherein said retainer is at least partially inserted into said lock body before said lock body is inserted into said opening.

15 5. The method of claim 1, further comprising the step of unlocking said assembly by removing said lock from said opening, comprising the step of removing said retainer from said channel and the step of moving said lock body from said opening without significantly displacing any soil fines within said opening.

20 6. The method of claim 1 wherein said lock body is inserted into said opening by hand.

25 7. The method of claim 1 wherein said lock body is removed with a pry tool.

 8. The method of claim 1 wherein said lock body is provided with another channel and said retainer is formed to have a hinge portion and a pair of legs.

30 9. The method of claim 1, further comprising unlocking said assembly by removing said retainer from said channel and thereafter removing said lock body from said opening.

35 10. The method of claim 1, further comprising unlocking said assembly by retracting said portion of said retainer from beyond said side of said lock body by

exerting a pulling force on said portion of said retainer through said opening.

5 11. The method of claim 1 wherein said lock body has an external opening communicating internally with said channel, further comprising unlocking said assembly by moving said retainer internally of said lock body in a direction toward said external opening.

10 12. The method of claim 1 wherein said retainer is not elastically movable so as to enable said lock body to be removed from said opening in response to forces applied to said retainer by said lock body.

15 13. The method of claim 1, further comprising unlocking said assembly by removing both said retainer and said lock body from said first member and said second member through said opening.

20 14. The method of claim 1, further comprising unlocking said assembly by removing both said retainer and said lock body from said first member and said second member in a substantially common direction.

25 15. A lock, comprising:
 (a) a rigid, substantially incompressible lock body, said lock body being generally block-shaped, and said lock body defining an opening and a pair of channels in
30 communication with said opening and in communication with opposite sides of said lock body;
 (b) a retainer having a hinge portion and a pair of legs terminating in respective
35 ends, said hinge portion being receivable within said opening and each of said pair of legs being receivable within a

respective one of said pair of channels,
and said ends of said legs extending
beyond said sides of said lock body; and

- (c) said lock body having a recess in
communication with said opening for prying
said retainer out of said lock body.

16. A lock, comprising:

- (a) a rigid, substantially incompressible lock
body, said lock body being generally
block-shaped, and said lock body defining
an opening and a pair of channels in
communication with said opening and in
communication with opposite sides of said
lock body;

- (b) a retainer having a hinge portion and a
pair of legs terminating in respective
ends, said hinge portion being receivable
within said opening and each of said pair
of legs being receivable within a
respective one of said pair of channels,
and said ends of said legs extending
beyond said sides of said lock body; and

- (c) said lock body having a longitudinal
take-up member.

17. A lock, comprising:

- (a) a rigid, substantially incompressible lock
body, said lock body being generally
block-shaped, and said lock body defining
an opening and a pair of channels in
communication with said opening and in
communication with opposite sides of said
lock body;

- (b) a retainer having a hinge portion and a
pair of legs terminating in respective
ends, said hinge portion being receivable

within said opening and each of said pair of legs being receivable within a respective one of said pair of channels, and said ends of said legs extending beyond said sides of said lock body; and
5 (c) said lock body further comprising a pry ledge for receiving a pry tool.

18. A lock assembly, comprising:

- 10 (a) a first member, a second member, and a lock;
- (b) said first member and said second member being movable longitudinally with respect to one another into coupling engagement,
15 and said first member and said second member having respective engaging surfaces to resist transverse movement of said first member and said second member with respect to one another when said first member and said second member are in
20 coupling engagement;
- (c) said first member and said second member each having a lock-engaging wall, and said second member defining an opening between
25 said lock-engaging wall of said first member and said lock-engaging wall of said second member, said lock being receivable through said opening when said first member and said second member are in said
30 coupling engagement to resist relative longitudinal movement between said first member and said second member;
- (d) said lock comprising a lock body and a retainer, said lock body defining a
35 channel having an outer end in communication with a side of said lock body;

- 5 (e) said retainer being receivable at least partially within said channel, so that a portion of said retainer is selectively extensible to an interfering position beyond said side so as to interfere with removal of said lock body from said opening; and
- 10 (f) said lock body defining an external opening separate from said outer end of said channel communicating with said channel internally of said lock body, said retainer being movable internally of said lock body in a direction toward said external opening so as to retract said
- 15 portion of said retainer from said interfering position when said first member and said second member are in said coupling engagement.
- 20 19. A lock assembly, comprising:
- (a) a first member, a second member, and a lock;
- 25 (b) said first member and said second member being movable longitudinally with respect to one another into coupling engagement, and said first member and said second member having respective engaging surfaces to resist transverse movement of said first member and said second member with respect to one another when said first
- 30 member and said second member are in coupling engagement;
- (c) said first member and said second member each having a lock-engaging wall, and said
- 35 second member defining an opening between said lock-engaging wall of said first member and said lock-engaging wall of said

second member, said lock being receivable through said opening when said first member and said second member are in said coupling engagement to resist relative longitudinal movement between said first member and said second member;

(d) said lock comprising a lock body and a retainer, said lock body defining a channel in communication with a side of said lock body;

(e) said retainer being receivable at least partially within said channel, so that a portion of said retainer is selectively extensible to an interfering position beyond said side so as to interfere with removal of said lock body from said opening; and

(f) said portion of said retainer being retractable from said interfering position in response to a pulling force exerted on said portion of said retainer through said opening when said first member and said second member are in said coupling engagement.

20. A lock assembly, comprising:

(a) a first member, a second member, and a lock;

(b) said first member and said second member being movable longitudinally with respect to one another into coupling engagement, and said first member and said second member having respective engaging surfaces to resist transverse movement of said first member and said second member with respect to one another when said first

member and said second member are in coupling engagement;

5 (c) said first member and said second member each having a lock-engaging wall, and said second member defining an opening between said lock-engaging wall of said first member and said lock-engaging wall of said second member, said lock being receivable through said opening when said first
10 member and said second member are in said coupling engagement to resist relative longitudinal movement between said first member and said second member;

15 (d) said lock comprising a lock body and a retainer, said lock body defining a channel in communication with a side of said lock body; and

(e) said retainer being receivable at least partially within said channel, so that a
20 portion of said retainer is selectively extensible beyond said side so as to interfere with removal of said lock body from said opening;

25 (f) said retainer not being elastically movable to enable said removal of said lock body in response to forces applied to said retainer by said lock body.

21. A lock assembly, comprising:

30 (a) a first member, a second member, and a lock;

35 (b) said first member and said second member being movable longitudinally with respect to one another into coupling engagement, and said first member and said second member having respective engaging surfaces to resist transverse movement of said

first member and said second member with respect to one another when said first member and said second member are in coupling engagement;

- 5 (c) said first member and said second member each having a lock-engaging wall, and said second member defining an opening between said lock-engaging wall of said first member and said lock-engaging wall of said
10 second member, said lock being receivable through said opening when said first member and said second member are in said coupling engagement to resist relative longitudinal movement between said first
15 member and said second member;
- (d) said lock comprising a lock body and a retainer, said lock body defining a channel in communication with a side of said lock body;
- 20 (e) said retainer being receivable at least partially within said channel, so that a portion of said retainer is selectively extensible beyond said side so as to interfere with removal of said lock body
25 from said opening; and
- (f) both said retainer and said lock body being removable from said first member and said second member through said opening in said second member when said first member
30 and said second member are in said coupling engagement.

22. The lock assembly of claim 21 wherein said retainer is removable through said opening without
35 concurrent removal of said lock body therefrom.

23. A lock assembly, comprising:

- (a) a first member, a second member, and a lock;
- (b) said first member and said second member being movable longitudinally with respect to one another into coupling engagement, and said first member and said second member having respective engaging surfaces to resist transverse movement of said first member and said second member with respect to one another when said first member and said second member are in coupling engagement;
- (c) said first member and said second member each having a lock-engaging wall, and said second member defining an opening between said lock-engaging wall of said first member and said lock-engaging wall of said second member, said lock being receivable through said opening when said first member and said second member are in said coupling engagement to resist relative longitudinal movement between said first member and said second member;
- (d) said lock comprising a lock body and a retainer, said lock body defining a channel in communication with a side of said lock body;
- (e) said retainer being receivable at least partially within said channel, so that a portion of said retainer is selectively extensible beyond said side so as to interfere with removal of said lock body from said opening; and
- (f) both said retainer and said lock body being removable from said first member and said second member in a substantially common direction when said first member

and said second member are in said coupling engagement.

24. The lock assembly of claim 23 wherein said
5 retainer is removable in said common direction without concurrent removal of said lock body in said direction.

25. The lock assembly of any one of
claims 18-24 wherein said lock body is removable through
10 said opening in said second member along a path that does not require significant displacement of soil fines to remove said lock body from said opening in said second member.

26. The lock assembly of any one of
claims 18-24 wherein said lock body substantially fills
15 said opening in said second member.

27. The lock assembly of any one of
claims 18-24 wherein said first member is a base member
20 and said second member is a wear member.

28. The lock assembly of any one of
claims 18-24 wherein said first member is a nose of an
25 adapter and said second member is a point.

29. A lock, comprising:
(a) a rigid, substantially incompressible lock
body selectively receivable into a member
30 to be locked, said lock body defining an external opening and a channel communicating internally with said external opening and having an outer end separate from said external opening and
35 communicating with a side of said lock body;

- 5 (b) a retainer including a plurality of
separate members receivable through said
external opening and at least partially
within said channel so that a portion of
said retainer is selectively extensible to
an interfering position beyond said side
of said lock body so as to interfere with
removal of said lock body from said
member; and
- 10 (c) said retainer being movable internally of
said lock body in a direction toward said
external opening so as to retract said
portion of said retainer from said
interfering position when said lock body
15 is within said member.
30. A lock, comprising:
- (a) a rigid, substantially incompressible lock
body selectively receivable into a member
20 to be locked, said lock body defining an
external opening and a channel
communicating internally with said opening
and with a side of said lock body;
- (b) a retainer including a plurality of
25 separate members receivable through said
external opening and at least partially
within said channel so that a portion of
said retainer is selectively extensible to
an interfering position beyond said side
30 of said lock body so as to interfere with
removal of said lock body from said
member; and
- (c) said portion of said retainer being
35 retractable from said interfering position
in response to a pulling force exerted on
said portion of said retainer through said

external opening when said lock body is within said member.

31. A lock, comprising:

- 5 (a) a rigid, substantially incompressible lock body selectively receivable into a member to be locked, said lock body defining an external opening and a channel communicating internally with said opening and with a side of said lock body;
- 10 (b) a retainer including a plurality of separate members receivable through said external opening and at least partially within said channel so that a portion of said retainer is selectively extensible beyond said side of said lock body so as to interfere with removal of said lock body from said member; and
- 15 (c) said retainer not being elastically movable to enable said removal of said lock body in response to forces applied thereto by said lock body.
- 20

32. A lock, comprising:

- 25 (a) a rigid, substantially incompressible lock body selectively receivable into a member to be locked, said lock body defining an external opening and a channel communicating internally with said external opening and having an outer end separate from said external opening communicating with a side of said lock body;
- 30 (b) a retainer at least partially formed from an elastomer and receivable through said external opening and at least partially within said channel so that a portion of
- 35

said retainer is selectively extensible to an interfering position beyond said side of said lock body so as to interfere with removal of said lock body from said member; and

- (c) said retainer being movable internally of said lock body in a direction toward said external opening so as to retract said portion of said retainer from said interfering position when said lock body is within said member.

33. A lock, comprising:

- (a) a rigid, substantially incompressible lock body selectively receivable into a member to be locked, said lock body defining an external opening and a channel communicating internally with said opening and with a side of said lock body;

- (b) a retainer at least partially formed from an elastomer and receivable through said external opening and at least partially within said channel so that a portion of said retainer is selectively extensible to an interfering position beyond said side of said lock body so as to interfere with removal of said lock body from said member; and

- (c) said portion of said retainer being retractable from said interfering position in response to a pulling force exerted on said portion of said retainer through said external opening when said lock body is within said member.

34. A lock, comprising:

- 5 (a) a rigid, substantially incompressible lock
body selectively receivable into a member
to be locked, said lock body defining an
external opening and a channel
communicating internally with said opening
and with a side of said lock body;
- 10 (b) a retainer at least partially formed from
an elastomer and receivable through said
external opening and at least partially
within said channel so that a portion of
said retainer is selectively extensible
beyond said side of said lock body so as
to interfere with removal of said lock
body from said member; and
- 15 (c) said retainer not being elastically
movable to enable said removal of said
lock body in response to forces applied
thereto by said lock body.
- 20 35. A lock, comprising:
- (a) a rigid, substantially incompressible lock
body selectively receivable into a member
to be locked, said lock body defining an
external opening and a channel
25 communicating internally with said
external opening and having an outer end
separate from said external opening
communicating with a side of said lock
body;
- 30 (b) an elastically deformable retainer
receivable through said external opening
and at least partially within said channel
so that a portion of said retainer is
selectively extensible to an interfering
35 position beyond said side of said lock
body so as to interfere with removal of
said lock body from said member, said

retainer becoming more relaxed as it is received into said lock body; and

- (c) said retainer being movable internally of said lock body in a direction toward said external opening so as to retract said portion of said retainer from said interfering position when said lock body is within said member.

10 36. A lock, comprising:

- (a) a rigid, substantially incompressible lock body selectively receivable into a member to be locked, said lock body defining an external opening and a channel communicating internally with said opening and with a side of said lock body;

- (b) an elastically deformable retainer receivable through said external opening and at least partially within said channel so that a portion of said retainer is selectively extensible to an interfering position beyond said side of said lock body so as to interfere with removal of said lock body from said member, said retainer becoming more relaxed as it is received into said lock body; and

- (c) said portion of said retainer being retractable from said interfering position in response to a pulling force exerted on said portion of said retainer through said external opening when said lock body is within said member.

37. A lock, comprising:

- (a) a rigid, substantially incompressible lock body selectively receivable into a member to be locked, said lock body defining an

external opening and a channel communicating internally with said opening and with a side of said lock body;

(b) an elastically deformable retainer receivable through said external opening and at least partially within said channel so that a portion of said retainer is selectively extensible beyond said side of said lock body so as to interfere with removal of said lock body from said member, said retainer becoming more relaxed as it is received into said lock body; and

(c) said retainer not being elastically movable to enable said removal of said lock body in response to forces applied thereto by said lock body.

38. A lock, comprising:

(a) a rigid, substantially incompressible lock body selectively receivable into a member to be locked, said lock body defining an external opening and a pair of channels communicating internally with said external opening and having outer ends separate from said external opening communicating with opposite sides of said lock body;

(b) a retainer receivable through said external opening having a hinge portion at least partially receivable within said external opening and a pair of legs, each receivable within a respective one of said pair of channels and selectively extensible and retractable with respect thereto so that a portion of said retainer is selectively extensible to an

- interfering position beyond a respective one of said opposite sides of said lock body so as to interfere with removal of said lock body from said member; and
- 5 (c) said retainer being movable internally of said lock body in a direction toward said external opening so as to retract said portion of said retainer from said interfering position when said lock body
- 10 is within said member.
39. A lock, comprising:
- (a) a rigid, substantially incompressible lock body selectively receivable into a member
- 15 to be locked, said lock body defining an external opening and a pair of channels communicating internally with said opening and with opposite sides of said lock body;
- (b) a retainer receivable through said
- 20 external opening, said retainer having a hinge portion at least partially receivable within said external opening and a pair of legs, each receivable within a respective one of said pair of channels
- 25 and selectively extensible and retractable with respect thereto to an interfering position beyond a respective one of said opposite sides of said lock body so as to interfere with removal of said lock body
- 30 from said member; and
- (c) said portion of said retainer being retractable from said interfering position in response to a pulling force exerted on said portion of said retainer through said
- 35 external opening when said lock body is within said member.

40. A lock, comprising:

- 5 (a) a rigid, substantially incompressible lock body selectively receivable into a member to be locked, said lock body defining an external opening and a pair of channels communicating internally with said opening and with opposite sides of said lock body;
- 10 (b) a retainer receivable through said external opening, said retainer having a hinge portion at least partially receivable within said external opening and a pair of legs, each receivable within a respective one of said pair of channels and selectively extensible and retractable with respect thereto beyond a respective
- 15 one of said opposite sides of said lock body so as to interfere with removal of said lock body from said member; and
- 20 (c) said retainer not being elastically movable to enable said removal of said lock body in response to forces applied thereto by said lock body.

41. A lock, comprising:

- 25 (a) a rigid, substantially incompressible lock body selectively receivable into a member to be locked, said lock body defining an external opening and a channel communicating internally with said
- 30 external opening and having an outer end separate from said external opening communicating with a side of said lock body;
- 35 (b) a retainer receivable through said external opening and at least partially within said channel so that a portion of said retainer is selectively extensible to

an interfering position extending beyond said side of said lock body so as to interfere with removal of said lock body from said member; and

- 5 (c) said retainer being movable internally of said lock body in a direction toward said external opening so as to retract said portion of said retainer from said interfering position when said lock body is within said member.
- 10

42. A lock, comprising:

- 15 (a) a rigid, substantially incompressible lock body selectively receivable into a member to be locked, said lock body defining an external opening and a channel communicating internally with said opening and with a side of said lock body;
- 20 (b) a retainer receivable through said external opening and at least partially within said channel so that a portion of said retainer is selectively extensible to an interfering position extending beyond
- 25 said side of said lock body so as to interfere with removal of said lock body from said member; and
- 30 (c) said portion of said retainer being retractable from said interfering position in response to a pulling force exerted on said portion of said retainer through said external opening when said lock body is within said member.

35 43. A lock, comprising:

- (a) a rigid, substantially incompressible lock body selectively receivable into a member

- to be locked, said lock body defining an external opening and a channel communicating internally with said opening and with a side of said lock body;
- 5 (b) a retainer receivable through said external opening and at least partially within said channel so that a portion of said retainer is selectively extensible to a position extending beyond said side of
- 10 said lock body so as to interfere with removal of said lock body from said member; and
- (c) said retainer not being elastically movable to enable said removal of said
- 15 lock body in response to forces applied thereto by said lock body.

44. The lock of any one of claims 41-43 wherein said retainer is removable through said external

20 opening along a path that does not require significant displacement of soil fines to remove said retainer from said opening.

45. The lock of any one of claims 41-43,

25 further comprising a lock member capable of fastening said retainer to said lock body.